

Listing of Claims

1) (Currently Amended) A contact activated vacuum assisted suction cup assembly comprising:

1) a cylindrical bellowed or corrugated cup defining a plurality of interconnected bellows or corrugations of alternating, coaxial large and small diameter areas, said bellowed cup having;

C) an open contact end; and

D) a valve end including a valve seat;

2) a centrally located valve stem having first and second extremities;

3) a valve plate intermediate said open contact end and said valve end in one of said large diameter areas attached to said first extremity; and

4) a valve stop attached to said valve stem at said second extremity said valve stop being of a size to engage said valve seat and further including a relatively small aperture in said valve stop for the admission of a slight vacuum into said cylindrical bellowed or corrugated cup.

2) (Original) The contact activated vacuum assisted suction cup assembly of claim 1 wherein said valve plate includes apertures therein for the passage of a vacuum.

- 3) (Original) The contact activated vacuum assisted suction cup assembly of claim 2 wherein said valve stop includes a central threaded aperture, said valve stem is threaded and said valve stop is threaded onto said valve stem.
- 4) (Original) The contact activated vacuum assisted suction cup assembly of claim 2 wherein said valve end includes a peripheral flange about said valve end.
- 5) (Original) The contact activated vacuum assisted suction cup assembly of claim 4 wherein said peripheral flange is integral with said valve end.
- 6) (Currently Amended) A picking device comprising:
- A) a vacuum plenum fed by a vacuum inlet;
 - B) a plurality of plenum apertures in said vacuum plenum; and
 - C) in said plenum apertures, contact activated vacuum assisted suction cup assemblies comprising:
 - i) a cylindrical bellowed or corrugated cup defining a plurality of interconnected bellows or corrugations of alternating, coaxial large and small diameter areas, said bellowed cup comprising;
 - a) an open contact end; and

- b) a valve end including a valve seat and a peripheral flange for engagement with said plenum apertures;
- iv) a centrally located valve stem having first and second extremities;
- v) a valve plate intermediate said open contact end and said valve end in one of said large diameter areas attached to said first extremity; and
- iv) a valve stop attached to said valve stem at said second extremity said valve stop being of a size to engage said valve seat and further including a relatively small aperture in said valve stop for the admission of a slight vacuum into said cylindrical bellowed or corrugated cup.

7) (Original) The picking device of claim 6 wherein said valve plate includes apertures therein for the passage of a vacuum.

8) (Original) The picking device of claim 7 wherein said valve stop includes a central threaded aperture, said valve stem is threaded and said valve stop is threaded onto said valve stem.

9) (Currently Amended) The contact activated vacuum assisted suction cup assembly of claim [[4]] 8 wherein said peripheral flange is integral with said valve end.

10) (New) A contact activated vacuum assisted suction cup assembly comprising:

1) a cylindrical bellowed or corrugated cup defining a plurality of interconnected bellows or corrugations of alternating, coaxial large and small diameter areas, said bellowed cup having;

A) an open contact end; and

B) a valve end including a valve seat;

2) a centrally located valve stem having first and second extremities;

3) a valve plate intermediate said open contact end and said valve end in one of said large diameter areas attached to said first extremity includes apertures therein for the passage of a vacuum; and

4) a valve stop including a central threaded aperture, said valve stem being threaded and said valve stop being threaded onto said valve stem at said second extremity, said valve stop being of a size to engage said valve seat.

11) (New) A picking device comprising:

A) a vacuum plenum fed by a vacuum inlet;

B) a plurality of plenum apertures in said vacuum plenum; and

C) in said plenum apertures, contact activated vacuum assisted suction cup assemblies comprising:

iv) a cylindrical bellowed or corrugated cup defining a plurality of interconnected bellows or corrugations of alternating, coaxial large and small diameter areas, said bellowed cup comprising;

v) an open contact end; and

vi) a valve end including a valve seat and a peripheral flange for engagement with said plenum apertures;

vi) a centrally located valve stem having first and second extremities;

vii) a valve plate intermediate said open contact end and said valve end in one of said large diameter areas attached to said first extremity and including apertures therein for the passage of a vacuum; and

iv) a valve stop including a central threaded aperture, said valve stem being threaded and said valve stop being threaded onto said valve stem at said second extremity, said valve stop being of a size to engage said valve seat.